



US006619381B1

(12) **United States Patent**  
Lee

(10) Patent No.: **US 6,619,381 B1**  
(45) Date of Patent: **Sep. 16, 2003**

(54) **MODULAR HEAT DISSIPATING DEVICE**

(76) Inventor: **Chien-Te Lee**, No. 3, Lane 31,  
Jen-Hsing St., Sanchung City, Taipei  
Hsien (TW)

(\*) Notice: Subject to any disclaimer, the term of this  
patent is extended or adjusted under 35  
U.S.C. 154(b) by 0 days.

(21) Appl. No.: **10/104,388**

(22) Filed: **Mar. 21, 2002**

(51) Int. Cl.<sup>7</sup> ..... **H05K 7/20**

(52) U.S. Cl. .... **165/78; 165/80.3; 165/185;  
174/16.3; 257/722; 361/704**

(58) Field of Search ..... **165/80.3, 78, 182,  
165/185; 174/16.3; 257/722; 361/704**

(56) **References Cited**

**U.S. PATENT DOCUMENTS**

2,434,676 A	*	1/1948	Spender	165/182
5,558,155 A	*	9/1996	Ito	165/80.3
6,104,609 A	*	8/2000	Chen	361/704
6,336,498 B1	*	1/2002	Wei	165/80.3
6,340,056 B1	*	1/2002	Huang et al.	165/185
6,382,307 B1	*	5/2002	Wang et al.	165/80.3

6,449,160 B1 \* 9/2002 Tsai ..... 361/704  
6,474,407 B1 \* 11/2002 Chang et al. .... 165/80.3

\* cited by examiner

*Primary Examiner*—Leonard R. Leo

(74) *Attorney, Agent, or Firm*—Kolisch Hartwell, P.C.

(57) **ABSTRACT**

A modular heat dissipating device comprising multiple U-shaped fins connected to one another. Each fin includes an upper plate extending from an upper edge of the fin. At least one aperture is defined in the upper plate. A Y-shaped connector extends from the upper edge of the fin within the at least one aperture in the upper plate to engage with the at least one aperture in the upper edge of an adjacent fin. The Y-shaped connector has a leg connected to the upper edge of the fin and two wings extending beyond the edge of the upper plate. A lower plate extends from a lower edge of the fin and has at least one aperture defined in the lower plate. A Y-shaped connector extends from the lower edge of the fin within the at least one aperture in the lower plate to engage with the at least one aperture in the lower edge of an adjacent fin. The Y-shaped connector within the at least one aperture in the lower plate has a leg connected to the lower edge of the fin and two wings extending slightly beyond the edge of the lower plate.

**4 Claims, 6 Drawing Sheets**

